Data Driven Process Optimization Using Business Data and Employee's Voices
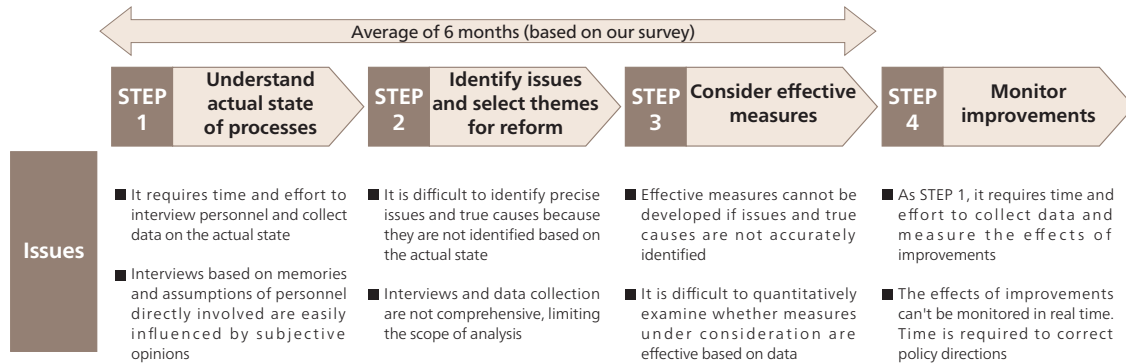
Business process optimization by visualizing the reality of business operations, using various analysis tools.

In the age of VUCA, corporate organizations and operations change daily to adjust to rapidly-changing business environments. Companies use ERP and other business management tools, but often do not understand the actual state of their own operations.
ABeam Consulting developed a new approach utilizing survey tools to analyze employee opinions and process mining tools for business data. The analysis visualizes business processes and issues that lead to effective business process reforms.

Problems with the Conventional Business Reform Approach

In conventional business reform approaches, consultants conduct interviews with personnel and/or identify issues and develop solutions based on their experience. But to achieve an effective reform, it is important to adopt objective approaches to uncover data and understand the actual state of operations and adopting proper measures to solve actual problems.

Average of 6 months (based on our survey)

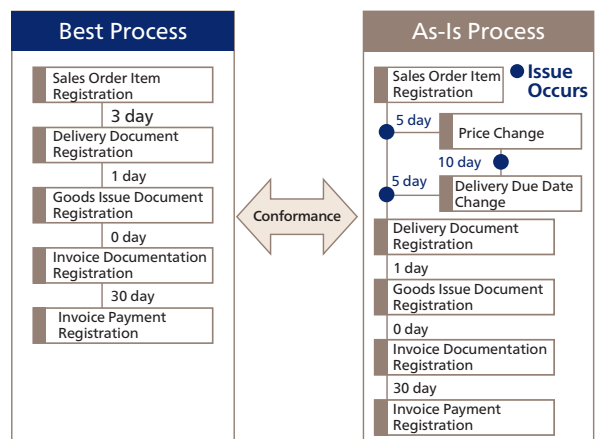| STEP 1 Understand actual state of processes	STEP 2 Identify issues and select themes for reform	STEP 3 Consider effective measures	STEP 4 Monitor improvements
Issues			
■ It requires time and effort to interview personnel and collect data on the actual state	■ It is difficult to identify precise issues and true causes because they are not identified based on the actual state	■ Effective measures cannot be developed if issues and true causes are not accurately identified	■ As STEP 1, it requires time and effort to collect data and measure the effects of improvements
■ Interviews based on memories and assumptions of personnel directly involved are easily influenced by subjective opinions	■ Interviews and data collection are not comprehensive, limiting the scope of analysis	■ It is difficult to quantitatively examine whether measures under consideration are effective based on data	■ The effects of improvements can't be monitored in real time. Time is required to correct policy directions

The Approach Proposed by ABeam Consulting - X&O

ABeam Consulting uses the X&O approach to objectively visualize the actual state of business processes and accurately identify issues and their true causes.
■ Use process mining tools to uncover operational data (O-data) and identify "what" is occurring in a business process
■ Determine "why" certain work is being performed with survey tools that share employee knowledge = experience (eXperience data = X-data).

Identify "what is happening" and "issues" by visualizing the business process

Process mining tools visualize business processes based on O-data (operational data that identifies "what"). We uncover exceptions and inefficient processes to identify issues. For example, inefficient processes (such as frequent sales order changes, cancellations, and input errors in sales order operations) can be identified quickly. In addition, defining the ideal business process and visualizing ideal/not ideal makes it possible to visually compare where and how much the current situation deviates from the ideal.
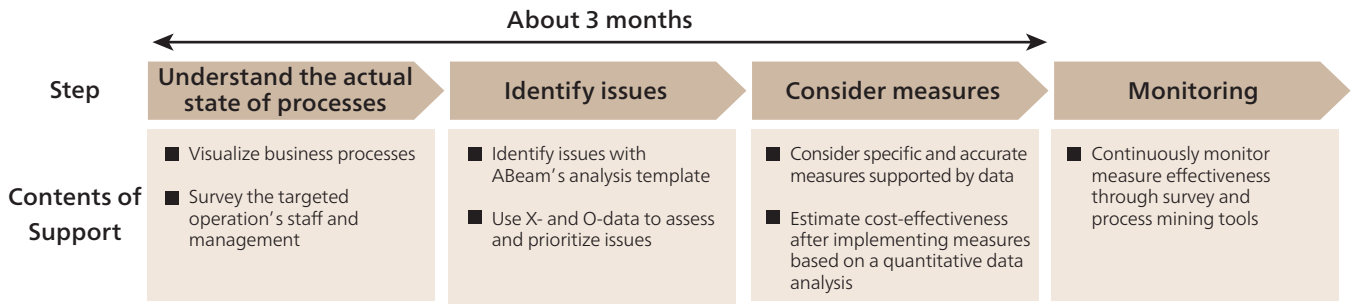
Best Process

Sales Order Item Registration
3 day
Delivery Document Registration
1 day
Goods Issue Document Registration
0 day
Invoice Documentation Registration
30 day
Invoice Payment Registration

Conformance

As-Is Process — ● Issue Occurs

Sales Order Item Registration
5 day — Price Change
10 day
5 day — Delivery Due Date Change
Delivery Document Registration
1 day
Goods Issue Document Registration
0 day
Invoice Documentation Registration
30 day
Invoice Payment Registration

Identify "why is this happening" and issues based on employee feedback

X-data (experience that identifies "why") is visualized through survey tools and analyzed to investigate the true causes of issues.
It also detects issues and potential problems outside the system that cannot be uncovered through O-data alone. For example, we will investigate why manual operations continue (such as operations conducted manually using spreadsheets and other software outside the system, e-mail-based approval management, etc.)
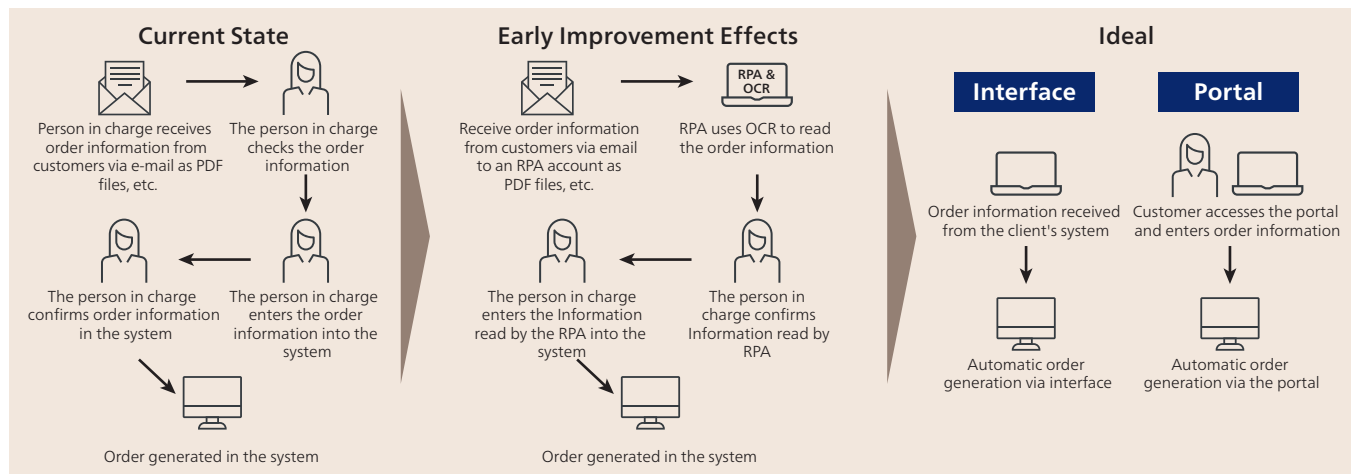
Value Added by the X&O Approach

ABeam Consulting has used their industrial and operational consulting expertise to develop analysis templates and methods that embody the X&O approach. Using this approach, we can implement support for business process reform in as little as three months in processes ranging from business data extraction, issue analysis, and studying reform measures to trial return-on-investment calculations.

About 3 months

Step	Understand the actual state of processes	Identify issues	Consider measures	Monitoring
Contents of Support	■ Visualize business processes ■ Survey the targeted operation's staff and management	■ Identify issues with ABeam's analysis template ■ Use X- and O-data to assess and prioritize issues	■ Consider specific and accurate measures supported by data ■ Estimate cost-effectiveness after implementing measures based on a quantitative data analysis	■ Continuously monitor measure effectiveness through survey and process mining tools

Example

This is an example of problem discovery and root cause analysis for a business reform project using the X&O approach, targeting business processes from order receipt to collection. In this project, O-data analysis (operational data that identifies "what") uncovered inefficiencies in the order process due to numerous order changes. X-data analysis (experience that identifies "why") revealed the existence of unsystematic manual work that introduced errors and required additional work to fix. This approach takes advantage of the data characteristics of both X- and O-data. It is effective for manual work performed outside the system and for problems identified by employees. In this case, the investment effect was measured based on quantitative O-data, and is expected to pay off in 2 years.

Current State

Person in charge receives order information from customers via e-mail as PDF files, etc. → The person in charge checks the order information → The person in charge enters the order information into the system → The person in charge confirms order information in the system → Order generated in the system

Early Improvement Effects

Receive order information from customers via email to an RPA account as PDF files, etc. → RPA & OCR: RPA uses OCR to read the order information → The person in charge confirms Information read by RPA → The person in charge enters the Information read by the RPA into the system → Order generated in the system

Ideal

Interface: Order information received from the client's system → Automatic order generation via interface

Portal: Customer accesses the portal and enters order information → Automatic order generation via the portal

Effectiveness of the X&O Approach

Business reforms based on conventional interviews can take six months to complete, as the process involves manual processing and analysis of interview results. The "survey tools" and "process mining tools" included in this service (and ABeam Consulting's original analysis templates and analysis methods) makes it possible to understand current business processes and consider reform measures in approximately three months. Our system provides 6.5 times more analysis checkpoints than conventional methods, making it possible to analyze the actual state of business operations. This promotes effective business process reform at companies and organizations.

	Conventional Approach		X&O Approach
Project Period	6 months	Double speed	3 months
Number of analysis checkpoints	11	6.5 times more checkpoints	71
Target data	Individual transaction data + Interview contents E.g.: On-time payment compliance rate + Details of interviews with employees related to the issue	Deep dive into issue survey	Continuous process data (O-data) + Employee voice (X-data) E.g.: Throughput time in the entire process + Employee satisfaction and awareness data related to the issue *Previous figures are averages of past projects.